also enclosed.

REMARKS

Claims 10-14 are in the application.

As a result of the foregoing amendment, a feature previously recited in claim 13 has been added to claim 12.

Accordingly, claim 12 now additionally contains the limitations directed to the steps of applying force control instead of position control and applying position control again when the target position has been reached.

Applicants respectfully submit that the claims as amended are not disclosed or suggested by the prior art of record.

Accordingly, reconsideration and withdrawal of the rejection of the claims under 35 U.S.C. 103(a) as being unpatentable over Hohenbichler et al., are respectfully requested.

In the Office Action, the Examiner has taken the position

that applicants argue that Hohenbichler et al. does not teach the claimed invention, however, applicants acknowledge that Hohenbichler et al. disclose the reduction of the rollers in order to reduce the thickness of the strand, in which the applicants claimed their invention, and that, therefore, claims 10 - 14 remain rejected.

Applicants respectfully disagree with this position taken by the Examiner.

As stated clearly and unequivocally in the first sentence on page 6 of the present application, it is the object of the present invention to provide a method as well as a device suitable for performing the method for format thickness change of the billet of a continuous casting plant during continuous casting, in which the casting speed for the transitional process to the change of section is not reduced, i.e., constant production and casting conditions are maintained.

A careful review of the method disclosed in the reference to Hohenbichler et al. shows that, contrary to the object of the present invention as set forth in the application, the method of the reference does not meet the requirement that the casting

speed is not changed. Therefore, it is submitted that the reference cannot anticipate or render obvious the present invention as claimed.

Applicants point out in this connection that the reference mentions several times that the casting speed is reduced, for example, in column 9, line 33, column 10, lines 6, 10, 16, 61, column 11, lines 18, 48, column 12, lines 23, 41, 44, 60, and increases of the casting speed in between reductions of the casting speed, for example, in column 9, line 43, column 10, lines 4, 63, column 11, lines 24, 53, 65, column 12, lines 3, 11, 27, 41.

Consequently, it is clear that an important aspect of the method according to the reference to Hohenbichler et al. is the permanent changing of the casting speed.

The reference to Hohenbichler does not meet the basic object of the present invention as claimed and, therefore, the reference does not anticipate the present invention as claimed.

Therefore, in view of the foregoing, it is submitted that this application is now in condition for allowance and such

allowance is respectfully solicited.

Any additional fees or charges required at this time in connection with the application may be charged to Patent and Trademark Office Deposit Account No. 11-1835.

Respectfully submitted,

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Dated: June 26, 2003
Encl.: Amended claims 12 and 13 (clean copy; marked-up version

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231, on June 26, 2003

By: _____ Date: June 26, 2003
Friedrich Kueffner

Marked-up version of the amended claims 12 and 13

12. (Amended) A method for changing the section of a billet of a continuous casting plant during continuous casting, wherein opposed sides of the billet are in contact with oppositely positioned roll supports arranged below a continuous casting die, wherein the roll supports are comprised of segments having rolls, wherein adjoining ones of the segments of each roll support are connected to one another by a jointed connection and wherein each segment is configured to be adjustable independent of the other segments with respect to an angular position relative to the billet, and wherein in an initial position the segments of the roll supports are adjusted to a uniform billet section; the method comprising the steps of:

advancing sequentially in a direction of continuous casting the segments toward the billet by moving the jointed connections toward the billet in a controlled sequence of adjusting steps for reducing the section of the billet; or

moving sequentially in a direction of continuous casting the segments away from the billet by moving the jointed connections away from the billet in a controlled sequence of adjusting steps for increasing the section of the billet, wherein, for changing the section of the billet with a constant

casting speed and with the solidification point of the billet having passed the first and second segments, an exit side of the first segment and an inlet side of the second segment in the casting direction are advanced in a first one of the adjusting steps toward or moved away from the billet by moving the first and second segments at the jointed connection connecting the first and second segments toward or away from the billet by set-point control, and after the first and second segments have reached a target position, an exit side of the second segment and an inlet side of the third segment in the casting direction are advanced in a second one of the adjusting steps toward or moved away from the billet by moving the second and third segments at the jointed connection connecting the second and third segments toward or away from the billet, and after the second and third segments have reached a target position, in further ones of the adjusting steps the third and further segments are advanced toward or moved away from the billet sequentially in the same manner until all segments have reached the target position, wherein the segments are adjusted at a constant adjusting speed with dynamic position control to a predetermined force threshold value, further comprising the step of calculating an adjusting speed of the segments for advancing or moving away the segments based on permissible billet elongation limit, the current casting

speed, the current section adjustment, and the resulting volume flow of the billet, wherein, when a predetermined force threshold value is surpassed, force control is applied instead of position control and wherein, when the target position has been reached, the position control is applied again.

13. (Amended) The method according to claim 12, wherein the adjusting speed is calculated, based on the current casting speed, the segment length, and the required adjusting stroke of the segments, by the equation

$$V = Ds/Ls * Vcast$$

wherein Ds is the section change, Ls is the segment length, and Vcast is the current casting speed, wherein the adjusting steps are carried out by hydraulic adjusting devices, further comprising the step of monitoring the adjusting steps via current cylinder pressure of the hydraulic adjusting devices[, wherein, when a predetermined force threshold value is surpassed, force control is applied instead of position control and wherein, when the target position has been reached, the position control is applied again].

Clean copy of the amended claims 12 and 13

12. (Amended) A method for changing the section of a billet of a continuous casting plant during continuous casting, wherein opposed sides of the billet are in contact with oppositely positioned roll supports arranged below a continuous casting die, wherein the roll supports are comprised of segments having rolls, wherein adjoining ones of the segments of each roll support are connected to one another by a jointed connection and wherein each segment is configured to be adjustable independent of the other segments with respect to an angular position relative to the billet, and wherein in an initial position the segments of the roll supports are adjusted to a uniform billet section; the method comprising the steps of:

advancing sequentially in a direction of continuous casting the segments toward the billet by moving the jointed connections toward the billet in a controlled sequence of adjusting steps for reducing the section of the billet; or

moving sequentially in a direction of continuous casting the segments away from the billet by moving the jointed connections away from the billet in a controlled sequence of adjusting steps for increasing the section of the billet, wherein, for changing the section of the billet with a constant

casting speed and with the solidification point of the billet having passed the first and second segments, an exit side of the first segment and an inlet side of the second segment in the casting direction are advanced in a first one of the adjusting steps toward or moved away from the billet by moving the first and second segments at the jointed connection connecting the first and second segments toward or away from the billet by set-point control, and after the first and second segments have reached a target position, an exit side of the second segment and an inlet side of the third segment in the casting direction are advanced in a second one of the adjusting steps toward or moved away from the billet by moving the second and third segments at the jointed connection connecting the second and third segments toward or away from the billet, and after the second and third segments have reached a target position, in further ones of the adjusting steps the third and further segments are advanced toward or moved away from the billet sequentially in the same manner until all segments have reached the target position, wherein the segments are adjusted at a constant adjusting speed with dynamic position control to a predetermined force threshold value, further comprising the step of calculating an adjusting speed of the segments for advancing or moving away the segments based on permissible billet elongation limit, the current casting

speed, the current section adjustment, and the resulting volume flow of the billet, wherein, when a predetermined force threshold value is surpassed, force control is applied instead of position control and wherein, when the target position has been reached, the position control is applied again.

13. (Amended) The method according to claim 12, wherein the adjusting speed is calculated, based on the current casting speed, the segment length, and the required adjusting stroke of the segments, by the equation

$$V = Ds/Ls * Vcast$$

wherein Ds is the section change, Ls is the segment length, and Vcast is the current casting speed, wherein the adjusting steps are carried out by hydraulic adjusting devices, further comprising the step of monitoring the adjusting steps via current cylinder pressure of the hydraulic adjusting devices.